

MEMORANDUM
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
SOUTH CENTRAL REGIONAL OFFICE
WATER DIVISION

7705 Timberlake Road

Lynchburg, VA 24502

SUBJECT: VPDES PERMIT # VA0006513, REISSUANCE SITE INSPECTION, TOWN OF GRETN
DRINKING WATER TREATMENT PLANT (WTP)

TO: Kip Foster, Water Permit Manager

FROM: Kirk Batsel, Sr. Environmental Engineer – BRRO Lynchburg

DATE: September 10, 2009

COPIES: Permit file

A site inspection was conducted at the subject facility on April 24, 2009. Gary Shields-Plant Operator, David Lilly-Town Manager, and myself were present during the inspection. The inspection focused on the WTP plant, by unit process, including the sedimentation basins, chlorination, chlorine contact tanks, chemical feed units, clear well, residual solids basin, discharge point and receiving stream. Please refer to the included attached photographs depicting the plant, operations, and current condition on the day of inspection.

The town currently draws water out of the town reservoir, below w. This reservoir overflows the



spillway and forms Georges Creek, a tributary of the Roanoke river, which is also the receiving stream for the WTP discharge.

Raw water is piped to the initial chemical mixing tank below.



Chemicals are added that help generate floc to treat the water, and are mixed prior to entering the flocculation basins. Next the water flows to the plant flocculation basins, and then to the settling basins below. The basins are operated in two parallel trains.



The water is then chlorinated and routed to one of the plants' three filters (note the filter picture below was taken in 2004, but no physical alterations in this unit process have occurred).



Since the last VPDES reissuance, the plant has been significantly updated, and now has a computerized management system, which provides real time data to the operator.



During the last reissuance inspection, significant leakage was present in the lower portion of the facility primarily associated with piping, seals etc. Since then, this area has also undergone significant

upgrades. The lower left picture was taken in 2004 (notice flooding condition), while the picture on the right was taken during the 2009 inspection (notice the dry condition).



Chemicals are housed in two rooms in the plant as below



Filter backwash and settled solids are routed to the residuals settling basin (RSB), photo below.



It was noted that this basin is in need of clean-out. While the basin had been completely cleaned out since the last reissuance inspection, the appearance was very similar to that of the last inspection (below)



Decanted water from the RSB is discharged via Outfall 001 to Georges creek.



Notice in the above right picture that the severe erosion noted during the last reissuance inspection (below) had been corrected and the bank is now stable.



Yet another upgrade at the WTP was the installation of an emergency generator, below.



This completed our inspection.

Conclusions:

The inspection revealed that issues noted during the last reissuance inspection (sedimentation cleanout, bank stabilization/security, and leakage) had been largely corrected. The only item noted was that it appears the RSB is again in need of cleanout. It appears that a five year cleanout schedule may be appropriate for this basin.